

1. Global online music sales have exploded. It is expected that music lovers will spend \$2 billion for online music in 2007.

In scientific notation, this number is:

- ☐  $2 \times 10^6$       ☐  $2.2 \times 10^7$   
☐  $2^9$       ☐  $2 \times 10^9$   
☐  $2.2 \times 10^8$       ☐  $2 \times 10^{10}$

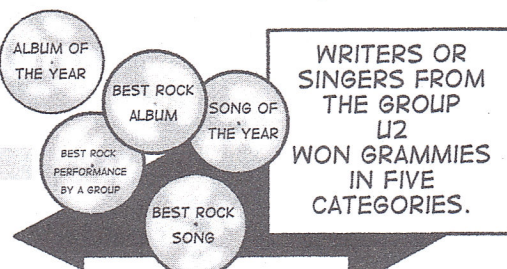
2. Solve:  $6x = -30$

3. Why is  $15 = \frac{x}{3}$  called an equation?

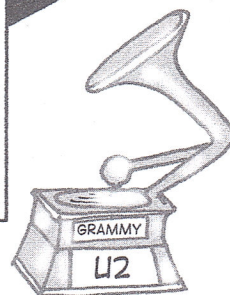
4. Write these in order from least to greatest:

$-3.1$      $\frac{7}{8}$      $0.31$      $-5$   
 $0$      $11.5$      $-12$      $23$      $\sqrt{16}$

5. At the 48th Annual Grammy Awards Show (in 2005), awards were given in 110 different categories.



IN WHAT PERCENT OF THE CATEGORIES DID U2 WIN AWARDS?



1. Use words to write this expression:

$9 + 7x$

2. In 1998, Rapper Revel XD set a record by speaking 683 syllables in 54.501 seconds. The number that represents this amount of time is:

a rational number  
 an irrational number  
 a whole number

3. Solve for x with y = 6.

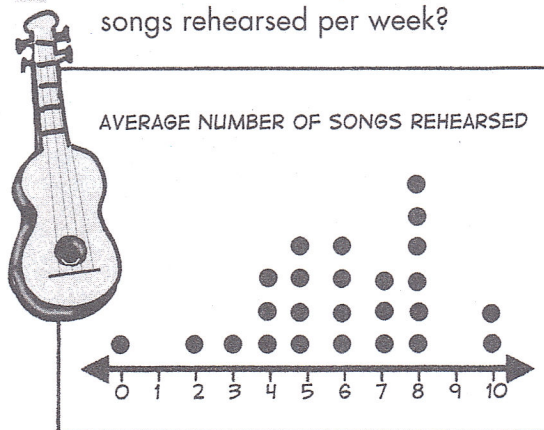
$x + 2y = 17$

4. Identify the base in each expression.

$x^5$        $y^{10}$        $5^2$        $2^3$

5. The dot frequency diagram shows the number of songs a band rehearsed every week for 25 weeks. Each dot stands for one week.

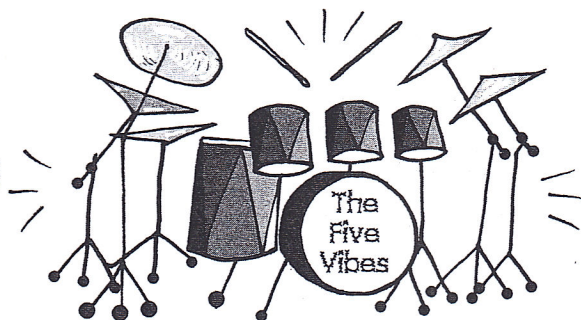
- a. During how many weeks did the band rehearse more than five songs?  
 b. What is the mean (average) number of songs rehearsed per week?



1. Ryan heard that the shortest music video ever made is just 2.18 seconds long. Use words to write this number.

5. Ryan is a drummer in a five-member percussion group. He had the name of the group embossed on his new drum.

Another member of the group draws a letter of the alphabet at random. What is the probability that the letter drawn will be a letter in the name of the group?



2. Simplify:  $6 + 12 - (4 + n)$

3. Explain the rule for multiplying two exponential expressions that have the same base.

4. Is the equation solved correctly?

$$\begin{aligned} -16 + y &= 2y \\ y &= -8 \end{aligned}$$

1. Write T (true) or F (false) for each sentence.

- |                 |               |
|-----------------|---------------|
| a. $2 + 5 > -5$ | d. $0 < -6$   |
| b. $12 < 12$    | e. $7 > -12$  |
| c. $8 < 5$      | f. $4^3 = 12$ |

5. The rock band Van Halen required a supply of M&Ms to be provided backstage. They asked to have the brown ones removed.

Assume that a host at one concert started with an equal number of six colors of M&Ms (red, orange, yellow, brown, green, blue). After removing the brown candies, she had 725 M&Ms left to put into the bowl. How many brown M&Ms were removed?

Write and solve an equation to find the answer.

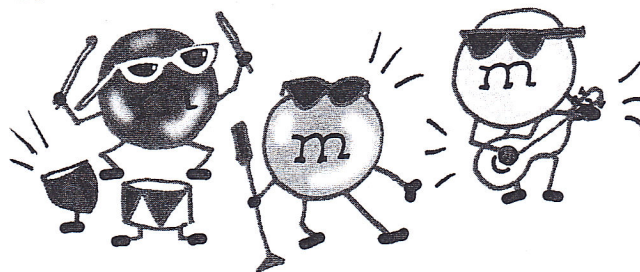
2. Evaluate the expression if  $x = 7$  and  $y = 12$ .

$$5x - y$$

3. Write this number:

**negative twelve and twelve thousandths**

4. Subtract:  $\sqrt{121} - \sqrt{64}$





1. Write the number that is the opposite of the one found on the sign.



2. In 2006, 40% of U.S. Internet users bought music online. This number was 70,800,000 buyers. Use the equation to find out how many Internet users there were in the U.S. in 2006.

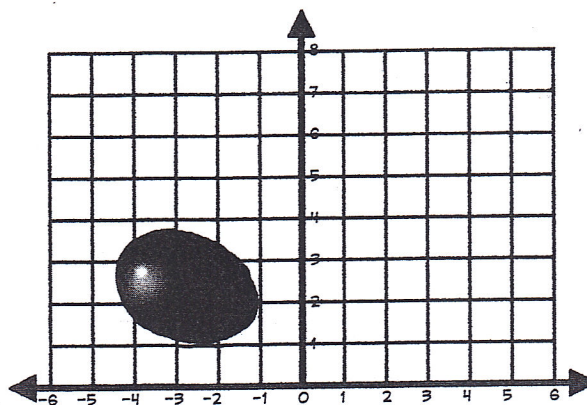
$$\frac{4}{10}x = 70,800,000$$

3. Solve for n:  $n + 7 - 4n = -8$

Circle the correct answer.

$n = 8$        $n = 5$        $n = -5$        $n = -8$

4. Draw a stem on the musical note. It should connect these points:  $(-1, 2)$ ;  $(0, 3)$ ;  $(2, 5)$ ;  $(3, 6)$



## 5. Challenge Problem

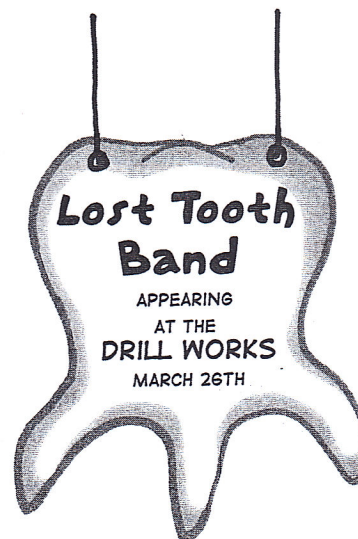
The Lost Tooth Band has five members of different ages: JoJo, Damon, Samantha, Will, and Brandy. The total of their ages is 121.

Will is three-fourths of JoJo's age.

Brandy is one year older than twice Damon's age.

Samantha is eight years older than JoJo.

JoJo is four times the age of Damon.



Which equation will help you find Damon's age?

- a.  $d + (2d + 1) + 4d + 8 + \frac{3}{4}d + d = 121$   
 b.  $d + (2d + 1) + 4d + (4d + 8) + \frac{3}{4}(4d) = 121$

Find the age for each band member.

**D** AMON

**B** RANDY

**J** OJO

**S** AMANTHA

**W** ILL